Message

From: Anderson, RobinM [Anderson.RobinM@epa.gov]
Sent: 2/3/2021 2:00:23 PM
To: Walker, Stuart [Walker.Stuart@epa.gov]
Subject: FW: DRAFT email -- Background Material for Hunters Point meeting
Attachments: BPMO-20-034 STUART 2_2_2021 comments.docx; Navy Hunters Pt 1.11 STUART 02 02 2021.docx; BPRG WTC Pesticide RESRAD_BUILD Peer Reviews 02_02_2021.docx; Sites w Dust Contamination.xlsx

Importance: High

Fabulous
#2 is not a question but rather is a response to #1.

You should get an award for this – you won't but you should.

Great work.

Robin

From: Walker, Stuart <Walker.Stuart@epa.gov>
Sent: Wednesday, February 3, 2021 12:40 AM
To: Anderson, RobinM <Anderson.RobinM@epa.gov>
Subject: DRAFT email -- Background Material for Hunters Point meeting
Importance: High

Hi Robin, please take a quick look at the draft email below before I send to Laurence and Schatzi. Note the first part (Enrique's 3 questions and bullet point answers following) was expanded from an email Brigid put together for Dana a couple of weeks ago using info from one of my emails. So I want to use the same format and tone, but want to see if its understandable since I added in more information.

Laurence and Schatzi, below is a draft email for supporting Friday's meeting on Hunters Point. The format for the first part (Enrique's 3 questions and bullet point answers following) is the same that Brigid used in her email to Dana on January 15, I just have added some additional information to update the information I put together.

As I mentioned in the FFRRO/OSRTI call, I do think staff should have a more in depth discussion of some of the issues raised by the Navy in their letters, which focus on more risk assessment and field survey/lab analyses technical issues and not how often the BPRG is used.

Here are Enrique's 3 questions and supplemental material is attached and described below.

Responses to Enrique's questions in 12/23/20 email

1) It would be helpful to know of other Superfund cleanup examples where remediation goals have been set to address radiologically-contaminated buildings for residential use (whether using BPRG, RRB, or another risk model).

2) We do not have a clear sense of how many times the BPRG calculator has been used to provide cleanup values at NPL sites, and the circumstances in which it has been used (e.g., radionuclides, target risk, RGs, building use). We are especially interested in examples where the planned use was residential.

- There are 67 RAD sites on the NPL. *At the majority* of the sites the buildings are demolished; thereby, alleviating the need to use the BPRG or other risk models for buildings for residential use. For example at the Navajo Nation AUM sites where contaminated tailings had been used in construction of homes, field real time measurements supported demolishing and replacing the houses under Emergency or Time-Critical removal actions.

- It is thought that there are not many CERCLA response actions to address contamination indoors. The 1993 OSWER directive *Response Actions at Sites with Contamination Inside Buildings* states "A discharge of a hazardous substance, pollutant, or contaminant that remains entirely contained within a building is not a "release" under CERCLA unless it subsequently enters the environment It may be a threatened release and, thus, subject to CERCLA response authority (50 FR 13462, April 4, 1985)."

- We queried regions and searching for examples where we have used the BPRG for addressing dust contamination or the same dust ingestion approach for indoor chemical contamination. I did search my emails in Outlook, but I am locked out of Lotus Notes.

    - The only regional received response was for a CERCLIS pre-screening of dust in residences at Bridgeton, Missouri by Region 7.

    - Region 3 did an evaluation of Navy cleanup levels indoor at a non-NPL Pennsylvania site at the request of local officials using the BPRG calculator.

- We do not expect to find many examples. EPA conducts few risk assessments of building contamination for purposes of setting cleanup levels. We are not aware of any chemical risk assessment model/guidance that uses the RESRAD Build approach for dust ingestion.

- We are also trying to determine the extent of apartments, homes, offices, etc. that were addressed using the WTC benchmarks. A query of the regional chemical risk assessors did not find any examples. A ROD search by a contractor found 18 sites that appeared to have chemically contaminated dust indoors that were addressed. The Superfund site summary from the first 9 sites on this list indicated that 7 of the sites had addressed dust. I have obtained the relevant site documents (e.g., ROD, Action Memo, risk assessment, etc.) from the regions but have not had time to examine them.

3) We expect that one of the primary topics of discussion in a dispute will be the level of conservatism designed into the RRB and BPRG calculators for removable radiological contamination (i.e., dust) and the much higher risks estimated by the BPRG calculator. The BPRG calculator estimates risk by multiplying a contaminant concentration by four exposure factors. We encourage you to be prepared to explain the basis for the default values for these four factors, the use of the product of the four factors to estimate risk, and examples where HQ has supported site-specific modifications to the calculator to estimate risk from radiologically contaminated dust.

    - The BPRG has gone through multiple peer reviews and is a sound, robust tool.

        - The BPRG was released in 2007 and used information from the World Trade Center response. The WTC document was used as the original source since this effort had undergone a gold plated scientific panel peer review, and the exposure input parameters would be the same whether it is a chemical or radiological contaminant. It was subsequently updated after EPA's Exposure Factors Handbook was revised to reflect the latest exposure assumptions.

        - The World Trade Center risk assessment protocols went through an extensive panel peer review.

- The BPRG has had one independent and one non-independent external peer reviews and has an up to date User Guide. RESRAD Build has never undergone an external peer review, has no User Guide on how to conduct a risk assessment or providing a rationale for its approach, and DOE is unable to explain how it addresses gamma radiation risks.

- Similar approaches to assessing risks from indoor contaminated dust, including default input parameters, have been adopted in guidance by EPA's pesticide program, DOD for contaminated surfaces, and California for PCBs in schools and residues from closed meth labs.

- The default parameters in the BPRG can be changed with justification. The default dissipation rate is the parameter that if altered is likely to have the most significant change to results. EPA built into the model an assumption that most buildings at contaminated sites will still have soil outside with some level of contamination that people can track into the building.

    - The default dissipation rate in the BPRG calculator is zero. The WTC response was able to justify a dissipation rate of 0.38. In discussions with EPA staff that developed the WTC benchmarks, the default of zero was chosen since BPRG may be used at sites where continued replenishment of contamination indoors may be occurring.

    - If a site-specific argument can be made that additional replenishment of radiologically contaminated dust indoors will be exceeded by the standard cleaning of rooms, a justifiable dissipation rate would be the input parameter where it would be most likely to justify a change from the default of 0.

    - The Navy could come up with a credible argument for changing the default vale of zero dissipation rate. We have discussed this with the Navy before in meetings.
- Based on previous discussion, the Navy is talking about relying on field real time measurements for the BPRG default (not using a dissipation rate) runs for settled dust not being measurable. Swipe samples of dust being taken to a lab should be measurable. If there are questions on how to do this, I recommend engaging EPA HQ radiation survey and lab analysis experts such as David Kappelman of OSRTI/ERT and John Griggs of ORIA Montgomery lab director.
- Many of the assertions made by the Navy either criticizing the BPRG calculator or statements supporting RESRAD BUILD are incorrect or not relevant to a CERCLA risk assessment. I would recommend further discussion of those assertions if EPA is to discuss with them options other than using a non-zero dissipation rate and using laboratory measurements to confirm BPRG cleanup levels.

Supplemental Material. File name is in *italics* with short description.

1. *BPMO-20-034.* Word file with Stuart technical comments on Navy's December 11, 2020 letter to Region 9. Many of the Navy's assertions appear to be incorrect or not relevant to a CERCLA risk assessment.
2. *Navy Hunters Pt 1.11.* Word file with Stuart technical comments on Navy's January 11, 2021 letter to Region 9. Many of the Navy's assertions appear to be incorrect or not relevant to a CERCLA risk assessment.
3. *BPRG WTC Pesticide RESRAD BUILD Peer Reviews.* Word file explaining the peer review status of EPA approaches using similar hand to mouth dust ingestion scheme in comparison to DOE RESRAD Build. Also explains verification review status and User Guide documentation of EPA Superfund risk and dose assessment models for inside buildings (BPRG/BDCC) vs that for RESRAD BUILD.
4. *Copy of Dust Ingestion Parameter Comparison.* Excel file with 6 tabs comparing the default ingestion parameters for hand to mouth risk assessments for contaminated in the BPRG calculator when issued 2007, and currently 2020, to similar risk assessment approaches from EPA, DOD, and California. The 6 tables are as follows:
    a. *Summary.* Puts the information from the 5 tables below, but without some of the explanatory information in those tables.
    b. *WTC_BPRG*. Compares the World Trade Center (WTC) benchmarks to BPRB 2007 and 2020 defaults for residential. Provides source where the defaults differ.

c. *BPRG_HERO.* Compares BPRG 2020 residential with California guidance for PCB with defaults to protect teachers and students.
d. *BPRG_CHPPM.* Compares BPRG 2020 worker and residential with DOD guidance for evaluating contaminated surface defaults to protect office workers.
e. *BPRG_OEHHA*. Compares BPRG 2020 residential with California guidance for evaluating meth lab residues defaults to protect children.
f. *BPRG_OPP*. Compares BPRG 2020 residential with EPA guidance for evaluating pesticides indoor defaults to protect children and adults.

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